

149. *Description of a New Species of Oyster from Japan.*

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(Comm. by C. ISHIKAWA, M.I.A., Dec. 12, 1929.)

In the neighbourhood of Futami, Hyôgo Prefecture, there inhabits a kind of "dampy" oyster among a considerably large one, *Ostrea denselamellosa*, and has been long since regarded as a dwarfed form of the latter. A careful study, however, has shown that it represents a hitherto undescribed species which I propose to call *O. futamiensis*. I wish to return herewith my hearty thanks to Asst. Prof. T. Kuroda of Geological Institute, Kyoto Imperial University for permitting me accessible to some important literature. I am also much indebted to Prof. A. Terao for his kindness given me in various ways.

Ostrea futamiensis, sp. nov.

(New Japanese name: *Kurohimegaki*)

Shell small, moderately thick, irregularly circular or oval; anterior and posterior margins minutely denticulate, 5-30 teeth on each; adductor scar elongately reniform; interior of both valves greenish white, often tinged with dark-blue; exterior of left valve blackish, sometimes partly covered by brownish yellow streaks radiating from the often eroded umbo, distinctly sculptured proximally but less so toward the lamellose, inflated margin.

Animal monoecious; ovum spherical; larva yellowish with a shade of faint black except brownish yellow liver, no pigment spot on foot; full-grown larva has somewhat globoid shell, its umbo being rounded.

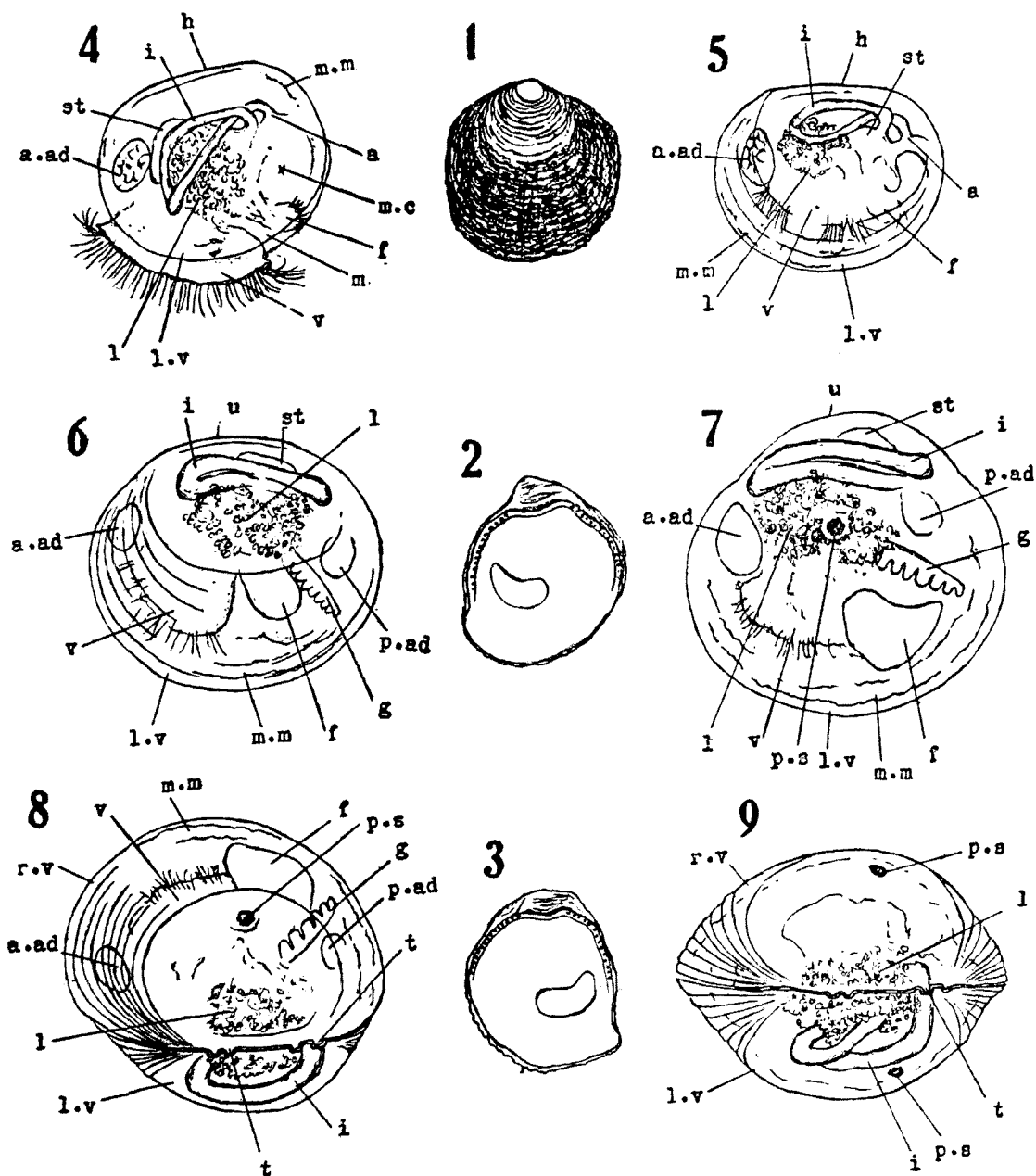
Measurement.—Shell of adult: 20-35 mm. in length, 20-40 mm. in height; shell of full-grown larva: 0.295 mm. in length, 0.280 mm. in height, 0.220 mm. in width; ovum: 0.135-0.160 mm. in diameter.

Habitat.—Futami, Hyôgo Prefecture; Awaji Is.; Prov. Sanuki.

Remarks.—The present species is closely allied to *O. guineensis* but distinguished from it by having teeth on anterior and posterior margins only. Although this species is much smaller than *O. denselamellosa* in adult stage, the ovum is decidedly larger than that of the

latter which is .105-.110 mm. in diameter. Such supremacy in size is still observable in straight-hinge larva, but from the full-grown larval stage on the reverse is the case. In passing it may be mentioned that this species is also distinguishable from *O. denselamellosa* in having spat either uniformly black or distinctly striped with yellow.

So far as my observations go, each individual spawns twice or thrice at intervals of 10-20 days during the spawning season which lasts from the middle of June to the end of September. The liberated ova which amount to about 70,000 at each spawning pass through developmental stages within the mantle cavity until free-swimming straight-hinge larval stage is reached. The larvae when freed are more abundantly found near shore than off, and more numerous in deeper layer than near water-surface. The setting takes place a little earlier than that of *O. denselamellosa* under the same conditions, viz., about three weeks after spawning, on gravelly bottom, 2-8 fathoms deep, where temperature of sea-water ranges 7°-28°C., and specific gravity at 15°C. 1.022-1.024.



Ostrea futamiensis, sp. nov.

Fig. 1. Exterior of left valve, $\times 2/3$; Fig. 2. interior of left valve, $\times 8/15$; Fig. 3. interior of right valve, $\times 8/15$; Fig. 4. straight-hinge larva with protruded velum, $\times 120$; Fig. 5. same stage with retracted velum, $\times 120$; Fig. 6. umbo-stage larva, $\times 120$; Figs. 7-9. full-grown larvae, $\times 120$; Fig. 7. from left side; Fig. 8. from obliquely right side; Fig. 9. from umbo side; a., anus; a.ad., anterior adductor muscle; f., foot; g., gill; h., hinge; i., intestine; l., liver; l.v., left valve; m., mouth; m.c., mantle cavity; m.m., mantle margin; p.ad., posterior adductor muscle; p.s., pigment spot; r.v., right valve; st., stomach; t., teeth; u., umbo; v., velum.